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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,204	02/22/2005	Naohiko Takeyama	Q86245	7746

23373 7590 08/15/2008

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EXAMINER	
SYKES, ALTREV C	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
08/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,204	TAKEYAMA ET AL.	
	Examiner	Art Unit	
	ALTREV C. SYKES	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-34* is/are pending in the application.

4a) Of the above claim(s) *12-16 and 28-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-11, 17-27, 32-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20080505*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges the amendment to the abstract for compliance with MPEP § 608.01(b). It has been entered.

2. The amendment to the claims by applicant is acknowledged by examiner and has been entered. At this time claim 2 has been cancelled and claims 1, 3-11 and 17-27 and 32-34 are being prosecuted on the merits.

Response to Arguments

3. Applicant's arguments filed May 5, 2008 have been fully considered but they are not persuasive.

Applicant traverses the rejection of claims 1 and 3-11 under 35 U.S.C. 102(e) as being anticipated by Yoneda because although Yoneda discloses coating, Yoneda is silent about coating an elastic polymer to form a non-impregnated layer. Examiner is not persuaded by this argument because Yoneda discloses that a substrate layer composed of an entangled nonwoven fabric consisting of ultrafine fibers and an elastic polymer or elastomer filled therein and having, on one side (side A) of the substrate layer, a grain layer comprising an elastomer mainly consisting of a polyurethane, and there are ultrafine fibers (b) substantially constituting the other side (side B) opposite to the side A of the substrate layer. (See [0010]) As such it is noted by examiner that Yoneda does provide for a second substrate layer essentially composed of fiber and does not contain an elastic polymer. Additionally, it is noted by examiner that "Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements

may be added and still form a construct within the scope of the claim."); Ex parte Davis, 80 USPQ 448, 450(Bd. App. 1948) ("comprising" leaves the "claim open for the inclusion of unspecified ingredients even in major amounts"). See also MPEP § 2111.03. "By using the term consisting essentially of,' the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention. Applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd.Pat. App. & Inter. 1989) As such, the instant claims do not recite that there is no polymer in the second substrate layer.

Finally, applicant also argues that the thickness of Yoneda as 0.3 to 4.0 mm is much thicker than that of applicant's thickness at 25-300 μm. However, examiner notes that 300 μm is equal to 0.3 mm and therefore the abutting range of Yoneda anticipates the range of applicant. The rejection of claims 1 and 3-11 still maintained as set forth below.

4. Applicant's arguments with respect to claims 17-27 have been considered but are moot in view of the new ground(s) of rejection as set forth above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-11 and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipation by Yoneda et al. (US 2003/0022575)

Regarding claim 1, Yoneda discloses a leather-like sheet material comprising a substrate layer composed of an entangled nonwoven fabric consisting of ultrafine fibers and an elastic polymer or elastomer filled therein and having, on one side (side A) of the substrate layer, a grain layer comprising an elastomer mainly consisting of a polyurethane, wherein the ultrafine fibers (a) constituting the side A of the substrate layer have a mean fineness substantially within the range of 0.01 to 0.5 decitex and the ultrafine fibers (b) substantially constituting the other side (side B) opposite to the side A of the substrate layer have a mean fineness of not more than 1/2 of the mean fineness of the ultrafine fibers (a) . As a result, the leather-like sheet material gives a sense of inclination in the direction of thickness, is soft and resistant to transverse stretching and has high peel strength, hence have a natural leather-like feel or touch. (See [0010])

Further regarding the limitation of claim 1 that the elastic polymer surrounds the fiber bundle and is not existent in the inside space of the fiber bundle, the examiner notes that Yoneda et al. discloses that the ultrafine fibers so referred to are fibers obtained by modifying the shape of multi-component fibers consisting of at least two spinnable polymer species differing in some chemical or physical properties by removing at least one polymer species by extraction at an appropriate step before or after impregnation with an elastomer. Typical examples thereof are sea-island type fibers. (See [0012])

Additionally, it is known in the art that if the fibrous substrate is made from sea-island type fibers, after impregnation with the elastic polymer and the solidification thereof, the sea component in the fiber may be dissolved and removed with an organic solvent, causing the island component to remain in a microfine fiber form. (See [0027]) The thus produced microfine fiber will remain, with spaces in the bundles of the microfine fiber. Therefore, there would be no polymer in the inside of the space of the fiber bundle like that of the instant application from the removal of the sea component. The limitation is met.

Regarding the limitation that the structure of the first substrate layer and the second substrate layer change continuously in the direction of thickness, it is noted by examiner that Applicant submits that the continuous change in structure is made by applying a solution of an elastic polymer to one side of a sheet (e.g. see Example 1). By applying the elastic polymer to one side of a sheet, the elastic polymer penetrates into the sheet and the gradient of the elastic polymer concentration is formed. In other words, the concentration of the elastic polymer decreases as the distance from the surface increases. (See applicant reply pg. 12 filed May 5, 2008) Yoneda et al. discloses leather-like sheet material which is high in peel strength and resistant to transverse stretching, gives a feel of inclination in the direction of thickness and a sense of substantiality and thus is similar in feel and touch to natural leathers. The expression "feel of inclination" as used herein means the feel and touch which suggest a slight difference in substantiality between the front and reverse sides when a leather-like sheet material is taken hold of so as to be gripped between fingers in the direction of thickness.

Thus, the feel includes, for example, the feeling experienced upon grasping a natural leather differing in structure from the material according to the invention but having a density gradient from dense to less dense in the direction of thickness from the front to the reverse side. (See [0009]) As such it is noted by examiner that the density gradient from dense to less dense in the direction of thickness as disclosed by Yoneda et al. would be equivalent to the continuous change in the direction of thickness as claimed by applicant.

Regarding claim 3, 6 and 32, Yoneda et al. discloses a grain layer comprising an elastomer mainly consisting of a polyurethane. (See [0010]) As the method of overlaying the grain layer on the substrate, there may be mentioned, among others, the method of coating using a knife coater, a gravure coater or the like. (See [0034]) The thickness of the entangled nonwoven fabric or the nonwoven fabric derived therefrom by pressing in the direction of thickness can be selected arbitrarily according to the intended use of the leather-like sheet material to be obtained, hence is not particularly restricted. In the case of a single one, the thickness is preferably about 0.2 to 3.0 mm, more preferably about 0.4 to 2.5 mm.(See [0023]) The thickness of the leather-like sheet substrate can be selected arbitrarily, hence is not particularly restricted. Preferably, however, it is within the range of 0.3 to 4 mm, in particular 0.5 to 3.0 mm.(See [0028])

Regarding claim 4, Yoneda et al. discloses the thickness of the leather-like sheet substrate can be selected arbitrarily, hence is not particularly restricted. Preferably, however, it is within the range of 0.3 to 4 mm, in particular 0.5 to 3.0 mm.(See [0028]) The thickness of the resin layer is preferably within the range of 10 to 300 μm for

obtaining a natural leather-like feel and touch. When it exceeds 300 μm, the feel of the leather-like sheet material as a whole tends to become hard or rigid and, when it is thinner than 10 μm, the surface physical properties tend to become inferior. Such tendencies are unfavorable to ordinary uses but may be tolerable to certain uses.(See [0030])

Regarding claim 5, examiner notes that suede is defined as a leather with a soft napped surface. Yoneda et al. discloses as a result, the leather-like sheet material gives a sense of inclination in the direction of thickness, is soft and resistant to transverse stretching and has high peel strength, hence have a natural leather-like feel or touch. (See [0010]) Therefore, the soft feeling provided by the Yoneda et al. leather would anticipate the suede-like surface.

Regarding claim 7, Yoneda et al. discloses The proportion of the ultrafine fiber component in the ultrafine fiber-generating fibers is preferably 40 to 80% by weight from the viewpoint of spinning stability and/or economy. (See [0014])

Further regarding the limitation that the elastic polymer surrounding the fiber bundle of the first substrate layer in the section perpendicular to the surface of the leather-like sheet product., the examiner has shown that Yoneda et al. discloses a similar substrate to that instantly claimed. It is noted that the applicant's disclosure recites the structure of this first substrate layer can be judged from an electron microphotograph of the section of the leather-like sheet product when cut in a direction perpendicular to the surface of the sheet product. (See pg 6, lines 5-10) It is believed the direction in which

the layer is to be cut in regards to the surface will determine the total space area of all the voids in the elastic polymer surrounding the fiber bundle for the production of the leather-like sheet product. As such, it is necessarily inherent that the layered substrate of Yoneda et al. exhibits the same properties as instantly claimed. See MPEP 2112.

Regarding claim 8, Yoneda et al. discloses The weight ratio between the substrate-constituting fibers and polymer elastomer is 90:10 to 30:70, preferably 80:20 to 40:60. (See [0028])

Regarding claim 9, Yoneda et al. discloses at least two ultrafine fiber-generating fiber species differing in fineness are used, and the ultrafine fibers (a) generated from the ultrafine fiber-generating fibers (a') to constitute the side on which a grain face is to be provided are required to have a single fiber fineness of 0.01 to 0.5 decitex. (See [0014]) In the Examples, Yoneda et al. discloses a section of the substrate would have 10 ultrafine fiber bundles with 20 arbitrary ultrafine fibers in each ultrafine fiber bundle. (See [0044])

Regarding claim 10, Yoneda et al. discloses a substrate layer composed of an entangled nonwoven fabric consisting of ultrafine fibers and an elastic polymer or elastomer. (See [0010]) the entangled nonwoven fabric is impregnated with a polymer elastomer. The polymer elastomer is a resin conventionally used in the production of leather-like sheet materials and it includes polyurethane resins, polyvinyl chloride resins, polyvinyl butyral resins, polyacrylic resins, polyamino acid resins, silicone resins, and mixtures or copolymers of these. Among these resins, polymer elastomers whose main

constituent is a polyurethane resin or resins are most preferably used since they can provide leather-like sheet materials with well balanced feel or touch and physical properties. (See [0024])

Further regarding the limitation recited in claim 10 which is directed to the elastic polymer in the first substrate layer is polyurethane having a solubility in toluene of 15 wt% or less, the examiner has shown that Yoneda et al. discloses a substantially similar substrate to that instantly claimed. It is believed the solubility of the polyurethane in toluene of 15 wt% or less is directly related to the application of the grain layer to that of the first substrate layer comprising a bundle of fine fibers and an elastic polymer for the production of the leather-like sheet product. As such, it is necessarily inherent that the layered substrate of Yoneda et al. exhibits the same properties as instantly claimed. See MPEP 2112. The applicant discloses in the specification that when nylon is used as the island component and polyethylene is used as the sea component, toluene is preferably used as the solvent for measurement to obtain the weight reduction and area expansion coefficient. (See pg 29, lines 11-33). It is noted by the examiner that Yoneda et al. recites the use of an island component of nylon 6 and the sea component of polyethylene. (See [0013]) In addition, in the working Example 1 it is noted by the examiner that the applicant recites DMF (dimethylformamide), a good solvent for the impregnated polyurethane resin, was applied to the resin impregnated surface of the obtained leather-like sheet product. (See pg.61, lines 12-27) This property is therefore inherent as established by applicant's disclosure.

Regarding claims 11 and 33, Yoneda et al. discloses in the method of impregnating the fibrous assembly with the resin, there may be mentioned the method which comprises impregnating the fibrous assembly with the resin emulsion or solution by immersion, coating, or squeezing, for instance, and, after impregnation, coagulating the resin in a porous or nonporous state by the wet process or dry process or a combination of these processes. It is further noted by examiner that applicant confirms that the "wet process" disclosed in the Yoneda examples forms "continuous porous". (See applicant remarks, pg. 13 filed may 5, 2008) As such, it is concluded that the dry process would provide for the solid or independently porous limitation as claimed by applicant.

Regarding claim 34, Yoneda et al. discloses polymer elastomers whose main constituent is a polyurethane resin or resins are most preferred. (See [0024]) All polyurethanes known in the art can be used as the polyurethane for impregnating the entangled nonwoven fabric. Thus, for example, there may be mentioned polyurethanes obtained by reacting at least one polymer diol selected from among polyester diols, polyether diols, polycarbonate diols and like polymer diols having an average molecular weight of 500 to 3,000, with at least one diisocyanate selected from among aromatic, alicyclic and aliphatic diisocyanates. Where necessary, the polyurethane may be used in the form of a polymer composition prepared by adding thereto a synthetic rubber, a polyester elastomer and/or a like polymer. These resins are used in the form of solutions, dispersions, or solution-dispersion mixtures.(See [0026]) Yoneda et al. also discloses the resin to be used in forming the grain layer can be selected according to the intended use from among known polyurethane resins, such as polyester polyurethanes, polyether

polyurethanes, polycarbonate polyurethanes, and mixtures of these, silicone-modified polyurethanes, fluorine-modified polyurethanes and other modified polyurethanes.(See [0029]) As noted above, Yoneda discloses that the polyurethane resin may be reacted with diisocyanate or otherwise modified such as esters of such dicarboxylic acids, among others, with an organic diisocyanate whose main component is an aromatic or alicyclic diisocyanate such as phenylene diisocyanate, tolylene diisocyanate or 4,4'diphenylmethanediisocyanate, if necessary together with an organic diisocyanate selected from among aliphatic diisocyanates or naphthalene ring-containing diisocyanates, together with a chain extender selected from among low-molecular weight compounds having two active hydrogen atoms, for example diols, amino alcohols, hydrazines, diamines and the like. (See [0035]) As the method of reaction melt polymerization, bulk polymerization or solution polymerization, for instance, may be used to give a thermoplastic polyurethane. (See [0035]) As such, examiner is equating the reactions and/or modifications of Yoneda to that of applicant to provide for the crosslinking function.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda et al. (US 2003/0022575)

Regarding claim 17, Yoneda et al. discloses a leather-like sheet material comprising a substrate layer composed of an entangled nonwoven fabric consisting of ultrafine fibers and an elastic polymer or elastomer filled therein and having, on one side (side A) of the substrate layer, a grain layer comprising an elastomer mainly consisting of a polyurethane, wherein the ultrafine fibers (a) constituting the side A of the substrate layer have a mean fineness substantially within the range of 0.01 to 0.5 decitex and the ultrafine fibers (b) substantially constituting the other side (side B) opposite to the side A of the substrate layer have a mean fineness of not more than 1/2 of the mean fineness of the ultrafine fibers (a) . As a result, the leather-like sheet material gives a sense of inclination in the direction of thickness, is soft and resistant to transverse stretching and has high peel strength, hence have a natural leather-like feel or touch. (See [0010]) Additionally, Yoneda et al. discloses the thickness of the entangled nonwoven fabric or the nonwoven fabric derived therefrom by pressing in the direction of thickness can be selected arbitrarily according to the intended use of the leather-like sheet material to be

obtained, hence is not particularly restricted. In the case of a single one, the thickness is preferably about 0.2 to 3.0 mm.(See [0023]) It is noted by examiner that Yoneda et al. uses the language "in the case of a single one" to disclose that it would have been within the ordinary skill of one in the art to use more than one substrate layer of elastic polymer and fibers and to modify the total space area voids. Yoneda et al. discloses it is of course possible to employ the method which comprises converting the ultrafine fiber-generating fibers to ultrafine fibers prior to impregnation with the polymer elastomer.(See [0027]) One would have been motivated based on the desired end use of the leather-like sheet.(See [0040]) Yoneda et al. discloses in Example 1 an apparent density of $0.25g/cm^3$. The claimed density would have been obvious to one of ordinary skill in the art to optimize motivated by the desire to tailor the softness of the leather-like sheet by modifying the sense of inclination as disclosed by Yoneda. (See [0010])

Further regarding the limitation of claim 17 that the elastic polymer surrounds the fiber bundle and is not existent in the inside space of the fiber bundle, the examiner notes that Yoneda et al. discloses that the ultrafine fibers so referred to are fibers obtained by modifying the shape of multi-component fibers consisting of at least two spinnable polymer species differing in some chemical or physical properties by removing at least one polymer species by extraction at an appropriate step before or after impregnation with an elastomer. Typical examples thereof are sea-island type fibers. (See [0012]) Additionally, it is known in the art that if the fibrous substrate is made from sea-island type fibers, after impregnation with the elastic polymer and the solidification thereof, the sea component in the fiber may be dissolved and removed with an organic solvent,

causing the island component to remain in a microfine fiber form. (See [0027]) The thus produced microfine fiber will remain, with spaces in the bundles of the microfine fiber. Therefore, there would be no polymer in the inside of the space of the fiber bundle like that of the instant application from the removal of the sea component. The limitation is met.

Regarding the limitation that the structure of the first substrate layer and the second substrate layer change continuously in the direction of thickness, it is noted by examiner that Applicant submits that the continuous change in structure is made by applying a solution of an elastic polymer to one side of a sheet (e.g. see Example 1). By applying the elastic polymer to one side of a sheet, the elastic polymer penetrates into the sheet and the gradient of the elastic polymer concentration is formed. In other words, the concentration of the elastic polymer decreases as the distance from the surface increases. (See applicant reply pg. 12 filed May 5, 2008) Yoneda et al. discloses leather-like sheet material which is high in peel strength and resistant to transverse stretching, gives a feel of inclination in the direction of thickness and a sense of substantiality and thus is similar in feel and touch to natural leathers. The expression "feel of inclination" as used herein means the feel and touch which suggest a slight difference in substantiality between the front and reverse sides when a leather-like sheet material is taken hold of so as to be gripped between fingers in the direction of thickness. Thus, the feel includes, for example, the feeling experienced upon grasping a natural leather differing in structure from the material according to the invention but having a density gradient from dense to less dense in the direction of thickness from the front to

the reverse side. (See [0009]) As such it is noted by examiner that the density gradient from dense to less dense in the direction of thickness as disclosed by Yoneda et al. would be equivalent to the continuous change in the direction of thickness as claimed by applicant. Therefore, the claim limitations are obvious modifications of the leather-like sheet product of Yoneda et al.

Regarding claims 18 and 21, Yoneda et al. discloses a grain layer comprising an elastomer mainly consisting of a polyurethane. (See [0010]) As the method of overlaying the grain layer on the substrate, there may be mentioned, among others, the method of coating using a knife coater, a gravure coater or the like. (See [0034]) The thickness of the entangled nonwoven fabric or the nonwoven fabric derived therefrom by pressing in the direction of thickness can be selected arbitrarily according to the intended use of the leather-like sheet material to be obtained, hence is not particularly restricted. In the case of a single one, the thickness is preferably about 0.2 to 3.0 mm, more preferably about 0.4 to 2.5 mm.(See [0023]) The thickness of the leather-like sheet substrate can be selected arbitrarily, hence is not particularly restricted. Preferably, however, it is within the range of 0.3 to 4 mm, in particular 0.5 to 3.0 mm.(See [0028])

Regarding claim 19, Yoneda et al. discloses the thickness of the leather-like sheet substrate can be selected arbitrarily, hence is not particularly restricted. Preferably, however, it is within the range of 0.3 to 4 mm, in particular 0.5 to 3.0 mm.(See [0028]) The thickness of the resin layer is preferably within the range of 10 to 300 μm for obtaining a natural leather-like feel and touch. When it exceeds 300 μm, the feel of the leather-like sheet material as a whole tends to become hard or rigid and, when it is

thinner than 10 μm, the surface physical properties tend to become inferior. Such tendencies are unfavorable to ordinary uses but may be tolerable to certain uses.(See [0030])

Regarding claim 20, examiner notes that suede is defined as a leather with a soft napped surface. Yoneda et al. discloses as a result, the leather-like sheet material gives a sense of inclination in the direction of thickness, is soft and resistant to transverse stretching and has high peel strength, hence have a natural leather-like feel or touch. (See [0010]) Therefore, the soft feeling provided by the Yoneda et al. leather would anticipate the suede-like surface.

Regarding claim 22, Yoneda et al. discloses The proportion of the ultrafine fiber component in the ultrafine fiber-generating fibers is preferably 40 to 80% by weight from the viewpoint of spinning stability and/or economy. (See [0014])

Further regarding the limitation that the elastic polymer surrounding the fiber bundle of the first substrate layer in the section perpendicular to the surface of the leather-like sheet product., the examiner has shown that Yoneda et al. discloses a similar substrate to that instantly claimed. It is noted that the applicant's disclosure recites the structure of this first substrate layer can be judged from an electron microphotograph of the section of the leather-like sheet product when cut in a direction perpendicular to the surface of the sheet product. (See pg 6, lines 5-10) It is believed the direction in which the layer is to be cut in regards to the surface will determine the total space area of all the voids in the elastic polymer surrounding the fiber bundle for the production of the

leather-like sheet product. As such, it is necessarily inherent that the layered substrate of Yoneda et al. exhibits the same properties as instantly claimed. See MPEP 2112.

Regarding claim 23, Yoneda et al. fails to teach the fiber bundle accounts for less than 40% of the total space area of all the voids. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the space area since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed space area is critical and has unexpected results. In the present invention, one would have been motivated to optimize the space area motivated by the desire to optimize spinning stability and/or economy. (See [0014])

Regarding claim 24, Yoneda et al. discloses The weight ratio between the substrate-constituting fibers and polymer elastomer is 90:10 to 30:70, preferably 80:20 to 40:60. (See [0028])

Regarding claim 25, Yoneda et al. discloses at least two ultrafine fiber-generating fiber species differing in fineness are used, and the ultrafine fibers (a) generated from the ultrafine fiber-generating fibers (a') to constitute the side on which a grain face is to be provided are required to have a single fiber fineness of 0.01 to 0.5 decitex. (See [0014]) In the Examples, Yoneda et al. discloses a section of the substrate would have10 ultrafine fiber bundles with 20 arbitrary ultrafine fibers in each ultrafine fiber bundle. (See [0044])

Regarding claim 26, Yoneda et al. discloses a substrate layer composed of an entangled nonwoven fabric consisting of ultrafine fibers and an elastic polymer or elastomer. (See [0010]) the entangled nonwoven fabric is impregnated with a polymer elastomer. The polymer elastomer is a resin conventionally used in the production of leather-like sheet materials and it includes polyurethane resins, polyvinyl chloride resins, polyvinyl butyral resins, polyacrylic resins, polyamino acid resins, silicone resins, and mixtures or copolymers of these. Among these resins, polymer elastomers whose main constituent is a polyurethane resin or resins are most preferably used since they can provide leather-like sheet materials with well balanced feel or touch and physical properties. (See [0024])

Further regarding the limitation recited in claim 26 which is directed to the elastic polymer in the first substrate layer is polyurethane having a solubility in toluene of 15 wt% or less, the examiner has shown that Yoneda et al. discloses a substantially similar substrate to that instantly claimed. It is believed the solubility of the polyurethane in toluene of 15 wt% or less is directly related to the application of the grain layer to that of the first substrate layer comprising a bundle of fine fibers and an elastic polymer for the production of the leather-like sheet product. As such, it is necessarily inherent that the layered substrate of Yoneda et al. exhibits the same properties as instantly claimed. See MPEP 2112. The applicant discloses in the specification that when nylon is used as the island component and polyethylene is used as the sea component, toluene is preferably used as the solvent for measurement to obtain the weight reduction and area expansion

coefficient. (See pg 29, lines 11-33). It is noted by the examiner that Yoneda et al. recites the use of an island component of nylon 6 and the sea component of polyethylene. (See [0013]) In addition, in the working Example 1 it is noted by the examiner that the applicant recites DMF (dimethylformamide), a good solvent for the impregnated polyurethane resin, was applied to the resin impregnated surface of the obtained leather-like sheet product. (See pg.61, lines 12-27) This property is therefore inherent as established by applicant's disclosure.

Regarding claims 27, Yoneda et al. discloses in the method of impregnating the fibrous assembly with the resin, there may be mentioned the method which comprises impregnating the fibrous assembly with the resin emulsion or solution by immersion, coating, or squeezing, for instance, and, after impregnation, coagulating the resin in a porous or nonporous state by the wet process or dry process or a combination of these processes. It is further noted by examiner that applicant confirms that the "wet process" disclosed in the Yoneda examples forms "continuous porous". (See applicant remarks, pg. 13 filed May 5, 2008) As such, it is concluded that the dry process would provide for the solid or independently porous limitation as claimed by applicant.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1254. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ACS/
8/7/08

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794